

(iii) Status of Claims.

Claims 23-26, 30, 32, 33, 36-39, 41-49, 69, and 71-74 are pending. Claims 23-26, 30, 32, 33, 36-39, 41-49, 69, and 71-74 are rejected and appealed.

Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-22, 28-29, 31, 34-35, 40, 50-68, 70, and 75 are canceled.

(v) Summary of Claimed Subject Matter.

A simulated divided lite glazing unit has an inner muntin grid disposed in the insulating chamber defined by a pair of glass sheets and a perimeter spacer. Inner and outer muntin grids are aligned with the inner muntin grid to create the appearance of true divided lite windows with the alignment of all three grids. The invention relates to the structure of the muntin grid pieces that are used to form the inner muntin grid. These muntin grid pieces are formed from inner and outer muntin grid elements. The claimed inner and outer muntin grid pieces have an outer muntin grid element that hides the inner muntin grid element from view. This configuration allows the inner muntin grid element to be made from an inexpensive, unattractive, structural material while the outer muntin grid element is made from a more attractive material. This configuration avoids the step of finishing and painting the inner muntin grid element. Creating muntin grid pieces in this manner also allows the outer muntin grid element to be desiccated in order to increase the amount of desiccant in the simulated divided lite glazing unit. The outer muntin grid element may be configured to fill more space than the inner muntin grid element to improve the divided lite appearance of the glazing unit. The flexible nature of the outer muntin grid element allows it to be rather larger without fear of its interference with the glass.

Independent claims 23, 26, 36, 39, and 69 recite the structure of a simulated divided lite insulating glazing unit having first and second spaced glass sheets (18 and 20) spaced apart by a perimeter spacer (22) to define an insulating chamber. This structure is described on pages 11 and 12 of the specification and is depicted in FIGS. 1-3 and FIG. 10. Independent claim 44 recites the structure of a combined inner and outer muntin grid elements.

Independent claim 23 requires the unit to have an internal muntin bar grid (406, page 28 of the specification) disposed inside the insulating chamber. The internal muntin bar grid (406) has a plurality of inner muntin grid elements (402, 502 – See FIGS. 27-42, specification pages 28-34) that each has a longitudinal direction. The grid also has a plurality of flexible, collapsible outer muntin grid elements (404, 408, 416, 422, 442, 446, 500, FIGS 27-42, specification pages 27-34) that each has a longitudinal

direction. The inner muntin grid elements (402, 502) are arranged in a grid that defines the pattern of the internal muntin bar grid (406). Claim 23 requires the outer muntin grid elements to surround the inner muntin grid elements to completely hide the inner muntin grid elements from view.

Independent claim 26 requires the unit to have an internal muntin bar disposed inside the insulating chamber with the internal muntin bar extending away from the perimeter spacer to divide the insulating chamber into separate portions to provide a divided-lite appearance to the glazing unit. The claim requires the internal muntin bar to have an inner muntin grid element (402, 502 – See FIGS. 27-42) and a flexible, collapsible outer muntin grid element (408, 422, 446). The outer muntin grid element substantially surrounds the inner muntin grid element to hide the inner muntin grid element from view on both sides of the insulating glazing unit. Claim 26 requires the outer muntin grid element to define a longitudinal slit (410 in FIG. 27B, page 29 of specification; 424 in FIG 27D, page 30 of the specification; 448 in FIG. 27G, page 31 of the specification, and FIG. 31, pages 31-32 of the specification) that allows the outer muntin grid element to be opened and wrapped around the inner muntin grid element.

Independent claim 36 requires the unit to have an outer muntin grid element (408, 422, 446) that surrounds an inner muntin grid element (402, 502 – See FIGS. 27-42). The outer muntin grid element is a tube. The claims require the tube to define a slit (410 in FIG. 27B, page 29 of specification; 424 in FIG 27D, page 30 of the specification; 448 in FIG. 27G, page 31 of the specification, and FIG. 31, pages 31-32 of the specification) that allows the tube to be wrapped around the inner muntin grid element.

Independent claim 39 requires the unit to have an outer muntin grid element (408, 422, 446) that surrounds an inner muntin grid element (402, 502 – See FIGS. 27-42). The outer muntin grid element is a tube. The claims require the tube to define a slit (410 in FIG. 27B, page 29 of specification; 424 in FIG 27D, page 30 of the specification; 448 in FIG. 27G, page 31 of the specification, and FIG. 31, pages 31-32 of the specification) that allows the tube to be wrapped around the inner muntin grid element.

Independent claim 44 recites the structure of a combination of an inner muntin grid element (502 – See FIGS. 37-42) and an outer muntin grid element (500). The outer muntin grid element is adapted to fold around the inner muntin grid element. The claim requires the body of the outer muntin grid element (500) to define one corner notch (506) for at least three of the corners of the inner muntin grid element (502). The corner notches are spaced apart to align with the corners of the inner muntin grid element (502) when the body is wrapped around the inner muntin grid element (See FIGS. 37-42, pages 33-34 of the specification).

Independent claim 69 requires a simulated divided lite insulating glazing unit to have an internal muntin bar grid having a plurality of inner muntin grid elements (402) and a plurality of outer muntin grid elements (404, 416, 442); see page 28. The claim requires each of the outer muntin grid elements (404, 416, 442) to be a unitary tube (FIGS. 27C, 27F, and 34-36; specification pages 30, 31, and 32-33) having a continuous sidewall that encloses a length of an inner muntin grid element longitudinal edges and longitudinal sides to hide the longitudinal edges and longitudinal sides of the enclosed portion of the inner muntin grid element from view on both sides of the insulating glazing unit.

Claim 30 requires an outer muntin grid element to have a protruding foot 418 (FIGS. 27C-E described at page 30 of the specification). The foot 418 fills more of the gap between the glass sheets.

Claim 33 requires the outer muntin grid elements of claim 23 to be in the form of tubes that are collapsible. Exemplary tube configurations are shown in FIGS. 27 and 34-36.

Claim 42 requires the outer muntin grid element to have ends 414, 508 that are angled away from each other as shown in FIGS. 27B, 27D, 27G, and 40. These angled ends help close the slit tubes as described at page 29 of the specification.